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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/583,033 | 06/15/2006 | Hideki Yoshikawa | 520.46263X00 | 6757 |

20457 7590 04/05/2011

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| EXAMINER | |
|---|---|
| BRUTUS, JOEL F | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3777 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 04/05/2011 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Advisory Action Before the Filing of an Appeal Brief | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/583,033 | YOSHIKAWA ET AL. | |
| | Examiner | Art Unit | |
| | JOEL F. BRUTUS | 3777 | |

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 23 February 2011 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-4,6,8-10 and 18-20*.
   Claim(s) withdrawn from consideration: *11-17*.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.

12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

13. ☐ Other: _____.

/Tse Chen/
Supervisory Patent Examiner, Art Unit 3777

/Joel F Brutus/
Examiner, Art Unit 3777

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Continuation of 11. does NOT place the application in condition for allowance because: Applicant argues that Lin doesn't disclose or suggest motion of of a living body, appear to be silent on setting a plurality of estimation regions and constructing three-dimensional motion vectors based on two-dimensional vectors which are independent and obtained from biplane images.

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The examiner disagrees because none of the examined claims include a living body and in contrary to Applicant's arguments; Lin discloses motion of an intrument
Lin further discloses three dimensional biplane orientation of the instrument or structures may be generated [see column 2 lines 60-68] and also mention instrument within a living body such as humans, animal and structures [see column 1 lines 13-17, column 3 lines 1-15].

Lin also discloses 3D orientation comprises a composite of two imaes generated from two interleaving image planes [see column 3 lines 55-65]. Applicant also argue that

Applicant argues that Lin doesn't teach partial motion of the object. The examiner disagrees because the probe 200 also provides an instrument path, namely the instrument path 212,which provides simultaneous viewing in at least two imaging planes. Tthe instrument path 212 is defined by the intersection of the imaging plane 208 and the imaging plane 210. As shown in the embodiment of FIG. 4A, the two transducers 202 and 204 are placed orthogonally with respect to each other. As such, the imaging planes 210 and 208, generated by the transducers 202 and 204, respectively, intersect orthogonally. Since the instrument path 212 lies on a line that substantially defines the intersection of the two imaging planes shown in FIG. 4A, the instrument path 212 provides simultaneous viewing of an instrument in the two imaging planes 208 and 210 [see column 5 lines 13-35].

As disclosed herein, partial motions of the instrument can be detected in the intersection line of the image planes. Motion of the instrument is inherently disclosed because Lin discloses a path to guide the instrument into the subject. In order to penetrate or guide the instrument nto the subject; it has to move into the subject. In addition, Otsuka et al teach determining velocity components of three dimensional motion of an object [see column 9 lines 1-30]. In addition, Otsuka et al disclose a feature extraction unit 108 comprises an intersection line histogram obtaining unit 150 coupled to a velocity estimator unit 152 [see fig 7] and fig 8 shows an intersection line along tangent planes and motion trajectory [see fig 8]. Otsuka et al disclose measuring features such as movement, position of a target within the image [see column 7 lines 20-30].
Furthermore,

Applicant argues that Lind doesn't teach genrating or reconstructing three dimensional images from two-dimensional images. Hossack et al disclose multiple two dimensional image data are accumulated and assembled into a three dimensional volume [see column 5 lines 12-45] and further mention figs 1-3 can be used to reconstruct three dimensional images [see column 5 lines 7-8]. Hossack et al teach a motion estimator 138 [see fig 4 and 6] which receives images data from both transducer arrays, that is capable of estimating/detecting a three dimensional motion of the object from the reflection signals (emphasis added and see column 7 lines 10-35). Therefore, one with ordinary skill in the art at the time the invention was made would be motivated to combine Lin with Hossack et al and with Otsuka et al by determining or producing velocity components of three dimensional motion of an object for analysis purposes and to produce velocity component of target or feature positioned on an intersection line of the two 2D cross section images of Hossack et al; in order to locally obtain a most dominant velocity component even from a target which is a non\- rigid body such as a temporal structure and deforms, appears and disappears [see column 7 lines 40-45, Otsuka et al].

With regards to setting a plurality of estimation regions; Applicant describes a mutual correlation function as suppressing or extracting a contour or speckle component to indirectly estimate motion [see 0067, specification].
However, Hossack et al teach a motion estimator 138 that compares sequences of frames to estimate a component of motion [see column 7 lines 1-10] and supplied the estimated motion to a calculator that calculates a value defining the best estimate of movement between frames [see column 7 lines 10-20]. Hossack et al teach in figs 15- 16, displays indicating movement or motion.
Nevertheless, Otsuka et al teach contour or edge is used to acquire motion [see column 7 lines 10-15 and abstract].
Therefore, one with ordinary skill in the art at the time the invention was made would have been motivated to combine Lin with Hossack et al and Otsuka et al by comparing the motion value to a predetermined value and to combine Lin with Hossack et al and Otsuka et al by using contour or edge to calculate motion; for accuracy purposes.

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